PRICE LIST

EFFECTIVE APRIL 1, 2013

	HydroScat Backscattering-Fluorescence Instruments	USA Retail Price
HydroScat-2	Measures the backscattering coefficient at two wavelengths, and fluorescence with excitation-emission wavelengths matched to the backscattering wavelengths. State-of-the-art measurement performance, and fully autonomous, turnkey operation. Includes on-board data logger, internal rechargeable batteries, battery charger, HydroSoft software, 10-meter Power/Data Interface (PDI) cable, and rugged carrying case. It's everything you need to start measuring accurate, calibrated backscattering right out of the box. The standard wavelengths are 420 and 700nm.	**$13,930**
HydroScat-2 Abyss	Same as the HydroScat-2 but designed and rated to a depth of 4000m.	**$18,810**
HydroScat-4	Measures the backscattering coefficient at four wavelengths, or a combination of four backscattering and fluorescence wavelengths. State-of-the-art measurement performance and fully autonomous, turnkey operation. Includes on-board data logger, internal rechargeable batteries, battery charger, HydroSoft software, 10-meter Power/Data Interface (PDI) cable, and rugged carrying case. It's everything you need to start measuring accurate, calibrated backscattering right out of the box. Standard wavelengths are 420, 470, 532, & 700nm or 420, 532, 700nm plus chlorophyll fluorescence.	**$18,990**
HydroScat-4S	Includes all the features of the HydroScat-4 plus an integrated anti-fouling shutter.	**$22,990**

HydroScat-6P	Measures the backscattering coefficient at six wavelengths, as well as two channels of fluorescence with excitation and emission wavelengths matched to backscattering wavelengths. State of the art measurement performance and fully autonomous, turnkey operation. Includes on-board data logger, internal rechargeable batteries, battery charger, HydroSoft software, 10-meter power/data interface (PDI) cable, and rugged shipping box. The new HydroScat-6P includes an integrated profiling cage that protects the housing and windows from scratching or damage and makes it much easier to handle and mount the instrument. It's everything you need to start measuring accurate, calibrated backscattering right out of the box. The standard bb wavelengths are 420, 442, 470, 510, 590, and 700nm.	**$28,560**

HydroScat Options		**USA Retail Price**
Flash Memory Upgrade	Adds 128M flash memory to any HydroScat, greatly increasing data capacity and securing data in case of power loss.	**$665**
Custom Wavelengths	If the standard wavelengths recommended for each HydroScat model don't suit your application, choose wavelengths from 394, 420, 442, 470, 488, 510, 532, 550, 590, 620, 676, 700 or 852 nm. Others may be available; contact HOBI Labs for details.	**$195 per wavelength**

HydroScat Accessories

		USA Retail Price
Power-Data Interface (PDI) Cable, 8-pin	Oceanographic-grade waterproof adapter cable that provides access to all instrument connections in the laboratory or field. Connects to the instrument through a waterproof 10-meter cable, and on the other end provides connections for an RS-232 serial port, battery charger, and an external power supply. 8-pin. Note that one PDI is supplied with each HydroScat purchase. Order this if you need a spare or replacement.	**$590**
Compact Deployment Cage for HS-2 or HS-4	Cage eases handling and protects the HydroScat-2 or HydroScat-4 (specify model at time of order) during deployment. Construction from stainless steel rods and acetal plastic clamps allows the cage to be disassembled for compact storage or transport.	**$1,660**
Welded Deployment Cage for HS-2 or HS-4	Stainless steel welded cage for rugged protection for HydroScat-2 or HydroScat-4 deployment (specify model at time of order).	**$2,070**
Welded Deployment Cage for Two HS-2 Abyss	Stainless steel welded cage provides rugged protection for two HydroScat-2 Abyss, providing four channels of backscattering and two channels of fluorescence at depths up to 4,000 meters.	**$2,970**
Compact Deployment Cage for HS-2 and Shutter	Cage eases handling and protects a HydroScat-2 and HydroShutter-HS during deployment. Construction from stainless steel rods and acetal plastic clamps allows the cage to be disassembled for compact storage or transport.	**$2,070**
HydroShutter-HS (for HS-2)	A motorized shutter system that attaches to the HydroScat-2. The copper shutter covers the instrument face during long-term mooring deployments to prevent fouling. During sampling, the HydroScat commands the shutter to open, and after sampling is complete, the shutter rotates to cover the instrument face again. Requires a deployment cage or other provision for mounting the shutter and HydroScat-2 together, and a cable for connecting them.	**$4,750**

Y-cable for HydroShutter-HS	Allows connecting a HydroScat-2 to a HydroShutter-HS simultaneously with a PDI cable or other power/data connection.	**$625**

Backscattering Calibration Equipment

		USA Retail Price
Calibration Fixture	Fixture that allows customer to conduct own calibrations of all HydroScat backscattering sensors in their own laboratories. Includes a calibration collar that holds the instrument in place (specify instrument type at time of order). Also requires a Spectralon plaque from HOBI Labs (see Level 1 Accessories) or from LabSphere, Inc.	**$5,210**

HydroBeta Volume Scattering Function Profiler

		USA Retail Price
HydroBeta II	HydroBeta II is the next generation of the pioneering HydroBeta, which in 2000 provided the world's first real-time profiles of the full volume scattering function (VSF), from 10 to 170 degrees. Using a collimated, depolarized laser light source, HydroBeta II makes 12 simultaneous measurements: the VSF at 11 discrete angles, and the attenuation coefficient. HydroBeta II is calibrated using an extension of the rigorous, proven methodology HOBI Labs developed for the HydroScat single-angle sensors.	**$150,000**

Absorption Measurement		USA Retail Price
a-Sphere	The a-Sphere measures the optical absorption of any liquid, in the ocean or in the lab, and is calibrated in absolute units of inverse meters (1/m). This sophisticated instrument has more than 10 times greater spectral resolution than the nearest "high-resolution" alternative and almost 50% more spectral range. The a-Sphere has no scattering error, is impervious to contamination, and is easy to maintain. It ships fully calibrated in a rugged shipping case with Windows software, and 10-meter, 4-pin Power/Data Interface (PDI) cable, oceanographic pump, tubing and fixtures to provide the required flow of water through the sphere, and an electrical cable to connect the pump to the a-Sphere.	**$33,500**

a-Sphere Accessories		USA Retail Price
Power-Data Interface (PDI) Cable, 4-pin	Oceanographic-grade water-proof adapter cable that provides access to all instrument connections in the laboratory or field. Connects to the instrument through a waterproof 10-meter cable, and on the other end provides connections for an RS-232 serial port and an external power supply. Note that a PDI cable is supplied with the a-Sphere purchase; order this as a spare or replacement.	**$350**
Pump-Cable Assembly	Oceanographic pump rated to 600 meters depth, to provide the required flow of water through the sphere, and a cable that connects the pump directly to the a-Sphere. This assembly is included in the standard a-Sphere purchase price; order this as a spare or replacement.	**$3,450**
Pump Cable	For customers with Seabird SBE-5 pumps, an oceanographic-grade molded cable suitable for connecting the SBE-5 to the a-Sphere. NOTE: pump must be equipped with a "wet-mateable" MCBH connector. This cable is included in the Pump-Cable Assembly above.	**$195**
Compact De-	Protective cage holds an a-Sphere and pump during	**$2,250**

	a-Sphere Accessories	USA Retail Price
ployment Cage	handling and deployment. Cage is constructed from rugged acetal plastic clamps with stainless steel rods and fasteners, and can be disassembled.	
Welded System Cage	Rugged, welded profiling cage for an autonomous a-Sphere package include pump and one or two HydroBatt battery packs. The a-Sphere stores data internally while the HydroBatt supply power for the system.	**$3,780**
Plumbing Kit	Includes spare fittings, tubing, and suction strainers for plumbing an a-Sphere pump in the field. (These items are included in the original a-Sphere purchase)	**$165**

Gamma Transmissometers

		USA Retail Price
Gamma-2	Two-wavelength Transmissometer rated to 500m depth; 30 cm optical path. Standard wavelengths are 470 & 700nm; other wavelengths available. Data transmitted in real time and logged in internal flash memory at up to 10 samples per second. 10 to 24 V power input suitable for various external power supplies or HOBI Labs battery pack. Ships fully calibrated with software, manual, and 10-meter, 4-pin Power/Data Interface (PDI) cable, in a rugged shipping container.	**$15,760**
Gamma-4	Four-wavelength Transmissometer rated to 500m depth; 30 cm optical path. Standard wavelengths are 420, 470, 590 & 700nm; other wavelengths available. Data transmitted in real time and logged in internal flash memory at up to 10 samples per second. 10 to 24 V power input suitable for various external power supplies or HOBI Labs battery pack. Ships fully calibrated with software, manual, and 10-meter, 4-pin Power/Data Interface (PDI) cable, in a rugged shipping container.	**$16,430**
Gamma-8	Eight wavelength Transmissometer rated to 500m; 30 cm optical path. Standard wavelengths are 395, 420, 442, 470, 510, 590, 620 & 700nm; other wavelengths available. Data transmitted in real time and logged in internal flash memory at up to 10 samples per second. 10 to 24 V power input suitable for various external power supplies or HOBI Labs battery pack. Ships fully calibrated with software, manual, and 10-meter, 4-pin Power/Data Interface (PDI) cable, in a rugged shipping container.	**$20,550**

Gamma Options

		USA Retail Price
Custom Wavelengths	If the standard wavelengths recommended for each Gamma model don't suit your application, choose wavelengths from 394, 420, 442, 470, 488, 510, 532, 550, 590, 620, 676, 700 or 852 nm. Others may be available; contact HOBI Labs for details.	**$195 per wavelength**

Gamma Accessories

		USA Retail Price
Power-Data Interface Cable, 4-pin	Oceanographic-grade water-proof adapter cable that provides access to all instrument connections in the laboratory or field. Connects to the instrument through a waterproof 10-meter cable, and on the other end provides connections for an RS-232 serial port and an external power supply. One PDI cable is supplied with each Gamma; order this as a spare or replacement.	**$350**

	HydroRad Field Radiometer Systems	USA Retail Price
HydroRad-E1	Submersible, full-spectrum radiometer system measures irradiance (or radiance, upon request) with a light collector mounted on the instrument end cap. Includes an internal intelligent logger/controller, 128 MB of flash memory, rechargeable batteries, depth sensor, and ships fully calibrated with battery charger, manual, software and 10-meter, Power/Data Interface (PDI) cable.	**$16,260**
HydroRad-ES1	Submersible, full-spectrum radiometer system measures irradiance with a light collector protected against fouling by a copper shutter. During data collection, the shutter is opened; during idle time, the shutter is closed to block growth of marine organisms. Includes an internal intelligent logger/controller, 128 MB of flash memory, rechargeable batteries, depth sensor, and ships fully calibrated with battery charger, manual, software and 10-meter, Power/Data Interface (PDI) cable.	**$19,520**
HydroRad-E2	Submersible, full-spectrum radiometer system simultaneously measures downwelling irradiance and upwelling radiance with light collectors mounted on opposite ends of the housing. Includes an internal intelligent logger/controller, 128 MB of flash memory, rechargeable batteries, depth sensor, and ships fully calibrated with battery charger, manual, software and 10-meter, Power/Data Interface (PDI) cable.	**$22,600**
HydroRad-2 **HydroRad-3** **HydroRad-4**	On a custom basis, HydroRads are also available with 2, 3 or 4 light collectors mounted on rugged fiber optic cables. Each channel has its own spectrometer to provide simultaneous measurements. Many configuration options are available, including various light collectors, fiber optic lengths, depth ranges, etc. Each includes an internal intelligent logger/controller, flash memory, rechargeable batteries, depth sensor (various ranges available), and ships fully calibrated with battery charger, manual, software and 10-meter, Power/Data Interface (PDI) cable.	**Quoted according to customer requirements**

HydroRad Accessories		USA Retail Price
Power-Data Interface Cable, 8-pin	Oceanographic-grade waterproof adapter cable that provides access to all instrument connections in the laboratory or field. Connects to the instrument through a waterproof 10-meter cable, and on the other end provides connections for an RS-232 serial port, battery charger, and an external power supply. 8-pin. Note that one PDI cable is supplied with each HydroRad; order this as a spare or replacement.	**$590**
PDI Extension Cable, 8-pin	Oceanographic-grade waterproof cable that extends the range of a PDI cable when instruments and computers must be separated by more than 10 meters. Especially suited for a HydroRad-E1 or other HydroRad mounted above water on a ship, when the HydroRad is located far from the user's computer. Note that this cable is not for lifting or profiling. Select a strengthened profiling cable for those applications.	**$625 set-up plus $19 per meter**
Strengthened Profiling Cable	Oceanographic-grade underwater cable with strength member for deploying instruments for real-time data acquisition and external power. Surface side of cable connects to a PDI cable. Specify length and which instrument you wish to use the cable with. A shipping case is also required. See Cable & Accessory Shipping Cases under Level 1 Accessories.	**$1,170 setup plus $28.2 per meter**
HydroShutter-HR (for models with fiber optic light collectors)	A motorized shutter system that attaches to a fiber-optic light collector on a HydroRad-2, HydroRad-3 or HydroRad-4. The copper shutter covers the light collector during long-term mooring deployments to prevent fouling. During sampling, the HydroRad commands the shutter to open, and after sampling is complete, the shutter rotates to cover the light collector again.	**$4,750**
Compact Deployment Cage	Protective cage holds and protects a HydroRad during deployment and handling. Cage is constructed from rugged acetal plastic clamps with stainless steel rods and fasteners, and can be disassembled for compact storage or transport. Assembled dimensions 21 cm x 18 cm x 31 cm for 1- and 2- channel HydroRads.	**$1,660**

WALRUS II Radiometer Buoy

(WAter-Leaving Radiance Unison Spectrometer)

		USA Retail Price
Base Configuration	WALRUS II is a hand-deployed buoy radiometer for accurately measuring spectral irradiance and radiance in a manner that is proven to be the best method for determining water-leaving radiance and remote sensing reflectance. The WALRUS II also supports slow profiling, and floating submerged at a fixed depth. The base configuration measures irradiance of the incident solar spectrum (E_S) above the surface, and upwelling radiance (L_u) 50 cm below the surface. You can add up to six more light collectors to expand and refine its measurement. WALRUS II is a self-contained measurement system with multiple spectrometers, a compass/orientation sensor, and an intelligent controller that provides real-time data communication. All WALRUS II configurations are shipped fully calibrated, with a 10-meter power/data interface (PDI) cable and software. A neutrally-buoyant tether cable (see below) is required for most applications.	**$34,140**
Option: additional measurement channels	Add up to five channels to the base configuration, each with its own spectrometer for simultaneous measurements. For each channel, select either upwelling radiance (Lu) or downwelling radiance (Ld), and specify its location as either above water, 50 cm depth, or 1 meter depth. Each depth can accommodate one or two channels; two channels at the same depth will be placed on opposite sides of the WALRUS II.	**Add $7,290 per channel**
Option: Profiling weights and hardware	Hardware, weights and ropes to support profiling operation, including a rugged shipping case. Profiling does not require any modification to the WALRUS II itself.	**Add $1,950**

WALRUS II Accessories		USA Retail Price
Power-Data Interface Cable, 8-pin	Oceanographic-grade water-proof adapter cable that provides access to all instrument connections in the laboratory or field. Connects to the instrument through a waterproof 10-meter cable, and on the other end provides connections for an RS-232 serial port, battery charger, and an external power supply. 8-pin. Note that one PDI cable is supplied with the WALRUS II; order this as a spare or replacement.	**$590**
Neutrally-buoyant Tether Cable	Oceanographic-grade underwater cable with strength member and special buoyant jacket that balances the cable weight; has neutral buoyancy in seawater. This allows tethering the WALRUS II in both floating and profiling modes, without the cable affecting its weight and balance. Surface end of this cable plugs into a PDI cable. Specify the length appropriate to your application. A shipping case is also required; size depending on cable length. See Cable & Accessory Shipping Cases under Level 1 Accessories.	**$850 set-up plus $25 per meter**

Fiber Optic Light Collectors

		USA Retail Price
Plane Irradiance Collector	Collects light with a nearly perfect cosine response for measuring plane irradiance with fiber-optics. Designed for easy mechanical mounting. SMA style connector is waterproof and pressure-tolerant to 150 meters when attached to HOBI Labs' fiber-optic cables. Specify in-air or underwater version of collector.	**$395**
Scalar Irradiance Collector	Spherical collector gathers light from all directions. Connects to fiber optics with SMA-905 connector and o-ring seal. Designed for underwater use with HOBI Labs fiber optic cables, but can be used with any SMA-905 terminated cable.	**$1,085**
Radiance Collector	Fiber-optic light collector designed for measuring radiance. Standard field-of-view is approximately 10 degrees full-width in water, with other options available. The Radiance collector connects to fiber optics with a SMA-905 connector and o-ring seal. Designed for underwater use with HOBI Labs fiber optic cables, but can be used with any SMA-905 terminated cable.	**$710**

Light Sources for Monitoring Radiometer Calibration

		USA Retail Price
PURLS	Programmable Universal Radiometer Light Source. Built directly into a rugged shipping container, includes 2 instrument adapter plates for precise attachment of customer's radiometers to PURLS, all necessary software & cables, & user's manual. Customer to specify radiometer model(s) for which adapter plates are required. We provide standard adapter plates for most commercial oceanographic radiometers. Additional adapters, or adapters for unusual radiometers, are available at extra cost.	**$15,530 BASE**
SLS-1	Stable light source for monitoring the calibrations of radiometric instruments. Price varies depending on interfacing requirements. To measure the stability of radiometers, the customer will need a fixture for attaching the SLS head to the radiometer. We can provide assistance.	**$15,420 BASE**

Light Source Options

		USA Retail Price
PURLS Radiometer Adapter Plate	Adapter plate holds a radiometer in place on PURLS during testing. Each plate is designed for a specific radiometer model. Two standard adapters are included with PURLS; this item is for additional adapters.	**$595**

Multi-Instrument Logger-Controllers

		USA Retail Price
HydroDAS	Submersible data acquisition system with versatile input and output options for collecting and storing data from a wide variety of instruments. It can distribute power to and collect data from multiple analog and digital instruments. Large non-volatile memory and programmable logging and control functions. Base configuration includes 4 RS232 instrument ports and 12V (nominal) power input. Long-cable options allow real-time systems with power and multiplexed data for up to 12 instruments transmitted over cables of 1000m or more. Many configuration options are available, so contact HOBI Labs for application assistance.	**$16,000** BASE, contact HOBI for assistance
HydroDAS-M, 7 ports, High-voltage cable interface	Multi-port housing configuration, with 7 RS232 instrument ports, high-voltage power input and RS485 interface for real-time interfacing to the surface. Requires a deck box. Many options are available, so contact HOBI Labs for application assistance.	**$20,150**
HydroDAS Deck Box	Deck box provides data interface and high-voltage power for real-time interfacing over long cables in profiling applications. Contact HOBI Labs for application assistance.	**$6,180**
MiniDAS	Submersible data acquisition system with versatile input and output options for collecting and storing data from a wide variety of instruments. It can distribute power to and collect data from multiple analog and digital instruments. Large non-volatile memory and programmable logging and control functions. A smaller more compact version of the HydroDAS. Base configuration includes 3 instrument ports plus 1 pump port, 12V (nominal) power input. Many configuration options are available, so contact HOBI Labs for application assistance.	**$8,980** BASE, contact HOBI for assistance

Battery Pack

		USA Retail Price
HydroBatt-NM16	Advanced-technology rechargeable battery provides 19 Volt (nominal) power for high-drain or long-duration deployments, in a corrosion-proof plastic housing. Includes fast charger, and ships in a rugged reusable case. Especially suitable for powering the a-Sphere, and multi-instrument systems controlled by a HydroDAS or MiniDAS	**$3,975**

Battery Pack Accessories

		USA Retail Price
Cable, 2-pin output	Cable connects the HydroBatt to the 2-pin power input on an a-Sphere, MiniDAS, HydroDAS, or other instrument.	**$195**
Y-cable, 2-pin output	Cable combines outputs of two HydroBatts into a 2-pin connector for an a-Sphere, MiniDAS, HydroDAS, or other instrument.	**$490**
Replacement Charger	A charger of the same type supplied with the HydroBatt, for spare or replacement, with a special connector that mates directly to the HydroBatt.	**$555**

	Electrical Cables (General) *Also see individual product sections above for cables that apply to specific products*	USA Retail Price
Strengthened Profiling Cable	Oceanographic-grade underwater cable with strength member for deploying instruments for real-time data acquisition and external power. Surface side of cable connects to a PDI cable. Specify length and which instrument you wish to use the cable with. A shipping case is also required; size depending on cable length. See Cable & Accessory Shipping Cases under Level 1 Accessories.	**$1,170 set-up plus $28.2 per meter**
Power-Data Interface (PDI) Cable, 8-pin	Oceanographic-grade waterproof adapter cable that provides access to all instrument connections in the laboratory or field. Connects to the instrument through a waterproof 10-meter cable, and on the other end provides connections for an RS-232 serial port, battery charger, and an external power supply. 8-pin. This PDI is included with HydroScats, HydroRads, and WALRUSs; order this cable if you need a spare or replacement.	**$590**
PDI Extension Cable, 8-pin	Oceanographic-grade waterproof cable that extends the range of a PDI cable when instruments and computers must be separated by more than 10 meters. Note that this cable is not for lifting or profiling. Select a strengthened profiling cable for those applications.	**$625 setup plus $19 per meter**
Power-Data Interface (PDI) Cable, 4-pin	Oceanographic-grade waterproof adapter cable that provides access to all instrument connections in the laboratory or field. Connects to the instrument through a waterproof 10-meter cable, and on the other end provides connections for an RS-232 serial port and an external power supply. This PDI is included with a-Spheres and Gammas; order this cable if you need a spare or replacement.	**$350**

Level I Accessories

		USA Retail Price
Spectralon Plaque	10-inch square reflective plaque required for HydroScat calibrations, using the HOBI calibration fixture. (Spectralon can also be purchased directly from LabSphere, Inc.)	**$2,075**
Power Supply for a-Sphere or Gamma	110 – 240 V, 50-60 Hz adapter provides 24V power to the Gammas or a-Spheres through a PDI cable (cable sold separately)	**$130**
Pump	Seabird SBE-5P pump, rated to 600 meters depth, suitable for use with a-Sphere. Included in the pump-cable assembly listed under a-Sphere accessories.	**$2,075**
Replacement Charger for HydroScat or HydroRad	Charger of the same type supplied with our battery-equipped instruments (specify model when ordering), for spare or replacement	**$130**
Suction Filter	Stainless wire mesh strainer to protect the intake of the a-Sphere from debris (2 are included with a-Sphere purchase)	**$30**
Cable & Accessory shipping case, small	Rugged, molded plastic shipping case (Pelican 1600) for profiling cables up to 100 meters	**$190**
Cable & Accessory shipping case, medium	Rugged, molded plastic shipping case (Pelican 1650) for profiling cables up to 150 meters, and neutral tethers up to 60 meters	**$275**
Cable & Accessory shipping case, large	Rugged, molded plastic shipping case (Pelican 1640) for profiling cables up to 300 meters, and neutral tethers up to 150 meters	**$340**
Cable & Accessory shipping case, extra-large	Rugged, molded plastic shipping case (Pelican 1660) for neutral tether cables up to 300 meters	**$390**

SALES TERMS AND CONDITIONS

- All instruments ship from Bellevue, WA.
- Shipping terms are EX Works, Bellevue, WA, prepay and added to invoice. All shipping costs are the responsibility of the customer, including any customs fees. Customer has option of providing their preferred shipper's name and account number.
- General delivery time for all instrument orders is 12-14 weeks. Accessories may be 6-8 weeks. Contact sales for exact delivery time. Expedited services may be available at a surcharge of 15% of invoice.
- All instruments are warranted for a period of one year from date of shipment (see warranty agreement).
- Domestic payment terms are net 30 or with credit card (MC/VISA/Discover).
- International payment terms are by bank letter of credit or 50% down payment at time of order, balance due at shipment.
- Discount of 10% provided if customer purchases three or more of the same instrument.
- All sales are final.
- Prices subject to change.

To request a quotation or place an order, contact the sales department:

Phone: 520-299-2589
Email: sales@hobilabs.com